

520 Tolling Implementation Committee
Evaluation Results for All Scenarios

November 10, 2008

Two-Bridge (520 & 90) Scenarios: 2010				Scenario 3: Toll both bridges in 2016 when project is complete		Scenario 4: Toll 520 bridge in 2010, and 90 bridge in 2016		Scenario 8: Toll 520 at a higher rate than 90 in 2016		Scenario 9: Toll both bridges in 2010	
Estimated Bridge Funding				\$2,229M		\$2,457M		\$2,170 M		\$2,428 M	
“Reasonableness” of Toll Rates* (Toll Rates are shown in 2007 dollars)				520	90	520	90	520	90	520	90
Morning (5 – 9 AM)						\$2.60				\$2.15	\$2.15
Mid-day (9 AM – 3 PM)						\$2.10				\$1.60	\$1.60
Afternoon (3 – 7 PM)						\$3.25				\$2.95	\$2.95
Evenings (7 – 10 PM)						\$1.95				\$1.30	\$1.30
Nights (10 PM – 5 AM)						No charge				\$0.75	\$0.75
Weekends						\$0.80 - \$1.60				\$0.80 - \$1.60	\$0.80 - \$1.60
Segment											
Average Toll Paid						\$2.08				\$1.70	
Route		Baseline		Scenario 3		Scenario 4		Scenario 8		Scenario 9	
		Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak
2010 Vehicle Volume (Does not include transit riders)											
520 Midspan		44,640	73,590			37,170	54,430			39,850	66,310
I-90 Midspan		63,540	86,730			65,280	92,880			53,150	76,430
SR 522 at 61st		20,210	29,790			20,560	30,360			20,820	30,280
I-405 at SR 167		55,990	101,770			56,730	104,730			57,800	105,330
Total Change		184,380	291,880			179,740	282,400			171,620	278,350
2010 Vehicle Volume Changes (Compared with the 2010 Baseline volumes - excludes transit riders)											
520 Midspan						-7,470	-19,160			-4,790	-7,280
I-90 Midspan						1,740	6,150			-10,390	-10,300
SR 522 at 61st						350	570			610	490
I-405 at SR 167						740	2,960			1,810	3,560
Total Change						-4,640	-9,480			-12,760	-13,530
Percent Change in Vehicle Volume (Compared with the 2010 Baseline Condition - excludes transit riders)											
520 Midspan						-17%	-26%			-11%	-10%
I-90 Midspan						3%	7%			-16%	-12%
SR 522 at 61st						2%	2%			3%	2%
I-405 at SR 167						1%	3%			3%	3%
Total Change						-3%	-3%			-7%	-5%
2010 Person Volumes (Includes transit riders)											
520 Midspan		56,300	90,850			49,750	68,600			51,910	81,400
I-90 Midspan		84,990	109,950			87,260	118,260			74,420	99,720
SR 522 at 61st		24,950	37,130			25,460	37,850			25,670	37,740
I-405 at SR 167		76,170	136,930			77,490	141,230			78,740	141,590
Total Change		242,210	387,860			239,960	365,940			230,740	360,450
2010 Person Volume Changes (Compared with the 2010 Baseline Person volumes - includes transit riders)											
520 Midspan						-6,550	-22,250			-4,390	-9,450
I-90 Midspan						2,270	8,310			-10,570	-10,230
SR 522 at 61st						510	720			720	610
I-405 at SR 167						1,320	4,300			2,570	4,660
Total Change						-2,450	-8,920			-11,670	-14,410
Percentage Change in Person Volume (Compared with the 2010 Baseline Condition - includes transit riders)											
520 Midspan						-12%	-24%			-8%	-10%
I-90 Midspan						3%	8%			-12%	-9%
SR 522 at 61st						2%	2%			3%	2%
I-405 at SR 167						2%	3%			3%	3%
Total Change						-1%	-2%			-5%	-4%
Type of Diversion				Scenario 3		Scenario 4		Scenario 8		Scenario 9	
				Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak
Person Changes by Type of Change (Compared with the 2010 Baseline Condition for each Route)											
Shift to Transit						1,630	650			1,220	360
Shift to I-90						2,270	8,310			-10,570	-10,230
Shift to SR 522						510	720			720	610
Shift to I-405						1,320	4,300			2,570	4,660
Changes Destination						-2,450	-8,920			-11,670	-14,410
Total						-8,180	-22,900			-5,610	-9,810
Shift Time of Day						8,940				3,880	
Percentage of Person Changes by Type of Change (Compared with the 2010 Baseline Persons on SR 520)											
Shift to Transit						3%	1%			2%	0%
Shift to I-90						4%	9%			-	-
Shift to SR 522						1%	1%			1%	1%
Shift to I-405						2%	5%			5%	5%
Changes Destination						4%	10%			8%	7%
Total						15%	25%			16%	13%
Shift Time of Day						8%				3%	
Route		Free-Flow Speed		Baseline		Scenario 3		Scenario 4		Scenario 8	
				Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak
Average Peak Direction Corridor Travel Speeds from I-5 to I-405 (except I-405 which is from I-90 to I-5 in Tukwila)											
520 GP Lanes		60		22	35			36	54		47
I-90 GP lanes		60		32	52			31	48		56
SR 522 GP Lanes		36		17	31			16	29		29
I-405 GP Lanes		60		23	32			23	32		32
Change in Average Peak Direction Corridor Travel Speeds from I-5 to I-405 (except I-405 which is from I-90 to I-5 in Tukwila)											
520 GP Lanes		60						15	19		12
I-90 GP lanes		60						-1	-4		4
SR 522 GP Lanes		36		17	31			-1	-2		-3
I-405 GP Lanes		60		23	32			0	1		1

* These are example toll rates for planning purposes. Actual toll rates will depend on a final finance plan and determined by the State Transportation Commission with approval by the State Legislature.

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Two-Bridge (520 & 90) Scenarios: 2016				Scenario 3: Toll both bridges in 2016 when project is complete		Scenario 4: Toll 520 bridge in 2010, and 90 bridge in 2016		Scenario 8: Toll 520 at a higher rate than 90 in 2016		Scenario 9: Toll both bridges in 2010	
Estimated Bridge Funding				\$2,229M		\$2,457M		\$2,170 M		\$2,428 M	
"Reasonableness" of Toll Rates* (Toll Rates are shown in 2007 dollars)				520	90	520	90	520	90	520	90
Morning (5 – 9 AM)				\$2.60		\$2.60		\$3.35	\$2.25	\$2.15	
Mid-day (9 AM – 3 PM)				\$2.10		\$2.10		\$2.20	\$1.45	\$1.05	
Afternoon (3 – 7 PM)				\$3.25		\$3.25		\$4.20	\$2.80	\$2.95	
Evenings (7 – 10 PM)				\$1.95		\$1.95		\$2.20	\$1.20	\$1.00	
Nights (10 PM – 5 AM)				\$0.90		\$0.90		\$0.75	\$0.75	\$0.75	
Weekends				\$0.80 to \$1.60		\$0.80 to \$1.60		\$0.80 to \$1.60		\$0.80 to \$1.60	
Segment				\$0.40 to \$0.80		\$0.40 to \$0.80					
Average Toll Paid				\$2.08		\$2.08		520 \$2.42	I-90 \$1.83	\$1.64	
Route		Baseline		Scenario 3		Scenario 4		Scenario 8		Scenario 9	
		Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak
2016 Vehicle Volume (does not include transit riders)											
520 Midspan		51,430	82,380	46,340	74,360	46,340	74,360	43,110	71,490	46,310	75,700
I-90 Midspan		62,877	87,633	51,000	69,150	51,000	69,150	52,150	72,390	50,300	72,100
SR 522 at 61st		20,370	30,360	21,550	31,450	21,550	31,450	21,220	32,310	21,140	31,750
I-405 at SR 167		67,970	118,540	73,720	135,300	73,720	135,300	70,170	125,710	69,930	121,840
Total Change		202,647	318,913	192,610	310,260	192,610	310,260	186,650	301,900	187,680	301,390
2016 Vehicle Volume Changes (Compared with the 2016 Baseline volumes - excludes transit riders)											
520 Midspan				-5,090	-8,020	-5,090	-8,020	-8,320	-10,890	-5,120	-6,680
I-90 Midspan				-11,877	-18,483	-11,877	-18,483	-10,727	-15,243	-12,577	-15,533
SR 522 at 61st				1,180	1,090	1,180	1,090	850	1,950	770	1,390
I-405 at SR 167				5,750	16,760	5,750	16,760	2,200	7,170	1,960	3,300
Total Change				-10,037	-8,653	-10,037	-8,653	-15,997	-17,013	-14,967	-17,523
Percent Change in Vehicle Volume (Compared with the 2016 Baseline Condition - excludes transit riders)											
520 Midspan				-10%	-10%	-10%	-10%	-16%	-13%	-10%	-8%
I-90 Midspan				-19%	-21%	-19%	-21%	-17%	-17%	-20%	-18%
SR 522 at 61st				6%	4%	6%	4%	4%	6%	4%	5%
I-405 at SR 167				8%	14%	8%	14%	3%	6%	3%	3%
Total Change				-5%	-3%	-5%	-3%	-8%	-5%	-7%	-5%
2016 Person Volumes (Includes transit riders)											
520 Midspan		68,870	102,270	64,110	93,210	64,110	93,210	60,840	90,110	63,720	94,330
I-90 Midspan		90,179	115,608	77,770	94,020	77,770	94,020	78,760	97,460	76,770	97,380
SR 522 at 61st		24,700	36,740	25,580	37,860	26,000	37,860	25,930	39,370	25,880	38,890
I-405 at SR 167		92,620	158,960	100,610	181,640	100,610	181,640	95,700	167,940	95,200	163,550
Total Change		276,369	413,578	268,490	406,730	268,490	406,730	261,230	394,880	261,570	394,150
2016 Person Volume Changes (Compared with the 2016 Baseline Person volumes - includes transit riders)											
520 Midspan				-4,760	-9,060	-4,760	-9,060	-8,030	-12,160	-5,150	-7,940
I-90 Midspan				-12,409	-21,588	-12,409	-21,588	-11,419	-18,148	-13,409	-18,228
SR 522 at 61st				1,300	1,120	1,300	1,120	1,230	2,630	1,180	2,150
I-405 at SR 167				7,990	22,680	7,990	22,680	3,080	8,980	2,580	4,590
Total Change				-7,879	-6,848	-7,879	-6,848	-15,139	-18,698	-14,799	-19,428
Percentage Change in Person Volume (Compared with the 2016 Baseline Condition - includes transit riders)											
520 Midspan				-7%	-9%	-7%	-9%	-12%	-12%	-7%	-8%
I-90 Midspan				-14%	-19%	-14%	-19%	-13%	-16%	-15%	-16%
SR 522 at 61st				5%	3%	5%	3%	5%	7%	5%	6%
I-405 at SR 167				9%	14%	9%	14%	3%	6%	3%	3%
Total Change				-3%	-2%	-3%	-2%	-5%	-5%	-5%	-5%
Type of Diversion		Scenario 3		Scenario 4		Scenario 8		Scenario 9			
		Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak		
Person Changes by Type of Change (Compared with the 2016 Baseline Condition for each Route)											
Shift to Transit		610		320		610		320		720	
Shift to I-90		-12,409		-21,588		-12,409		-21,588		-11,419	
Shift to SR 522		1,300		1,120		1,300		1,120		1,230	
Shift to I-405		7,990		22,680		7,990		22,680		3,080	
Changes Destination		-7,879		-6,848		-7,879		-6,848		-15,139	
Total		-5,370		-9,380		-5,370		-9,380		-8,750	
Shift Time of Day		5,960		5,960		5,960		5,960		7,560	
Percentage of Person Changes by Type of Change (Compared with the 2016 Baseline Persons on SR 520)											
Shift to Transit		1%		0%		1%		0%		1%	
Shift to I-90		-		-		-		-		-	
Shift to SR 522		2%		1%		2%		1%		2%	
Shift to I-405		12%		22%		12%		22%		4%	
Changes Destination		5%		3%		5%		3%		10%	
Total		19%		27%		19%		27%		17%	
Shift Time of Day		4%		4%		4%		4%		5%	
Route		Free-Flow Speed		Baseline		Scenario 3		Scenario 4		Scenario 8	
				Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak
Average Peak Direction Corridor Travel Speeds from I-5 to I-405 (Except I-405 which is from I-90 to I-5 in Tukwila)											
520 GP Lanes		60	21	37	35	52	35	52	36	54	48
I-90 GP lanes		60	26	53	40	58	40	58	34	56	56
SR 522 GP Lanes		36	15	30	14	28	14	28	14	27	28
I-405 GP Lanes		60	25	36	24	36	24	36	24	35	36
Change in Average Peak Direction Corridor Travel Speeds from I-5 to I-405 (Except I-405 which is from I-90 to I-5 in Tukwila)											
520 GP Lanes		60			14	14	14	14	15	16	10
I-90 GP lanes		60			14	6	14	6	8	3	4
SR 522 GP Lanes		36			-1	-2	-1	-2	-1	-3	-2
I-405 GP Lanes		60			-1	-1	-1	-1	-1	-1	-1

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